

# P20 Range

ROTARY ACTUATORS - ISO 5211 CONNECTION

## USE

- systems using alternative energy
- automation systems
- glycol cooling systems
- heating/cooling systems
- open and closed hydraulic systems
- industrial systems using hot and cold fluids
- drinking water systems, with suitable ball valve
- water treatment systems
- compressed air systems

## KEY FEATURES

- innovative "ALL IN ONE" control
- IP67 degree of electrical protection
- extra microswitches in opening and closing position
- manual override from the top
- different operating times

Diamant  
P20



Compact  
P20



Universal  
P20

ISO 5211 Connection

TECHNICAL FEATURES	Diamant P20		Compact P20	Universal P20
Electric control			2/3-point ALL IN ONE	
Connection with ball valve	ISO 5211 F03/F05		ISO 5211 F03/F05	ISO 5211 F05/F07
Operation			ON/OFF • Modulating	
Rotation			90° • 180°	
Compatible ball valves			2-way • 3-way diverter • 3-way mixer	
Position indicator			Arrow on the lever for manual opening	
Motor			Bidirectional - synchronous	
Power supply			230V 50/60 Hz • 24V 50/60 Hz • 110V 50/60 Hz *	
Electrical connection			Internal terminal block	
Nominal torque	5 Nm	11 Nm	22 Nm	40 Nm
Operating time (90°) [seconds]	4	12 • 35 **• 108 • 320	9 • 45 **	14 • 32 • 55 **
Power consumption	13 VA	7,5 VA	24 VA	24 VA
Flow rate of outlet phase to terminals 4 and 5			1 A resistive	
Maximum noise (at 1 meter distance)	35 dB(A)		42 dB(A)	50 dB(A)
Power output of extra micros			1 A resistive	
Heating resistance power			3W	
Operational room temperature			- 10° C ÷ 50° C	
Fluid temperature			See features of ball valves	
Protection degree			IP67	
External covering			Glass-filled "polyarylamide" technopolymer	
Material of external metal components and seals			AISI 303 GVR and brass CW617N • silicone seals	
Maintenance			None	
Certification			CE	

\* For UNIVERSAL PRO the 60Hz version is available on request

\*\* standard version






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# PRO Range

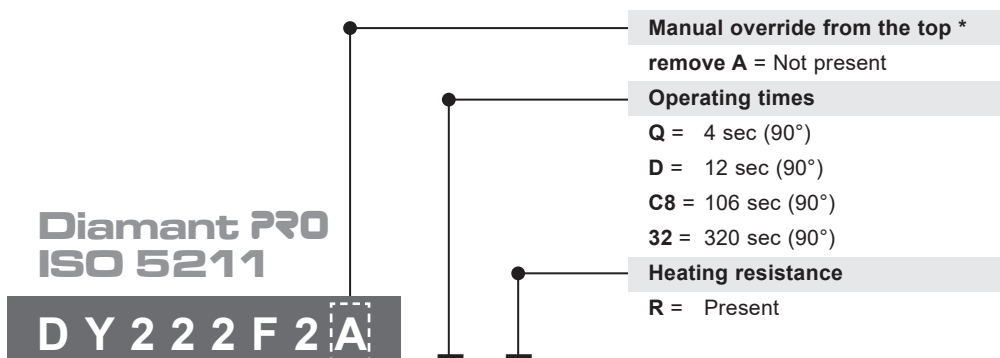
ROTARY ACTUATORS - ISO 5211 CONNECTION

## VERSIONS

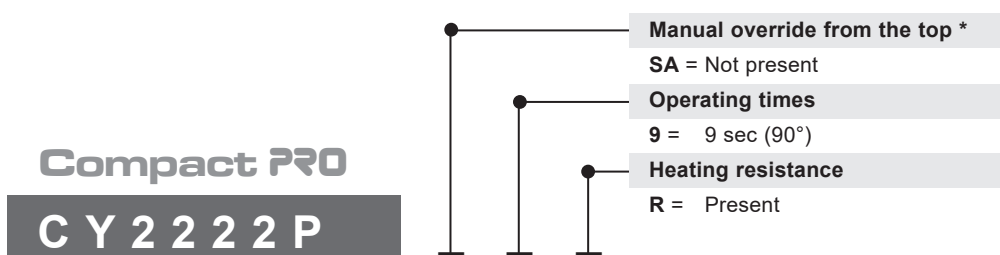
Actuator	Rotation angle	Operating time	Power supply	Base code
<b>Diamant PRO ISO</b> 	90°	35 sec	230V 50/60Hz	DY222F2A
	90°	35 sec	110V 50/60Hz	DY212F2A
	90°	35 sec	24V 50/60Hz	DY242F2A
	180°	70 sec	230V 50/60Hz	DY322F2A
	180°	70 sec	110V 50/60Hz	DY312F2A
	180°	70 sec	24V 50/60Hz	DY342F2A
<b>Compact PRO</b> 	90°	45 sec	230V 50/60Hz	CY2222P
	90°	45 sec	110V 50/60Hz	CY2122P
	90°	45 sec	24V 50/60Hz	CY2422P
	180°	90 sec	230V 50/60Hz	CY3222P
	180°	90 sec	110V 50/60Hz	CY3122P
	180°	90 sec	24V 50/60Hz	CY3422P
<b>Universal PRO</b> 	90°	55 sec	230V 50/60Hz	UY2222P
	90°	55 sec	110V 50/60Hz	UY2122P
	90°	55 sec	24V 50/60Hz	UY2422P
	180°	110 sec	230V 50/60Hz	UY3222P
	180°	110 sec	110V 50/60Hz	UY3122P
	180°	110 sec	24V 50/60Hz	UY3422P

## ACCESSORIES

You can add any accessory to the actuators of the **PRO Range** by adding or removing items from the **base code**.



STARTING base code



STARTING base code

\* manual override is only available with standard operating times.



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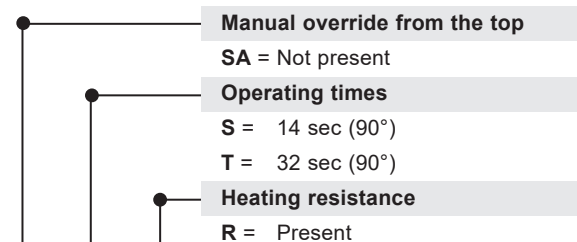
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# PRO Range

ROTARY ACTUATORS - ISO 5211 CONNECTION

Universal PRO

UY2222P



## STARTING base code

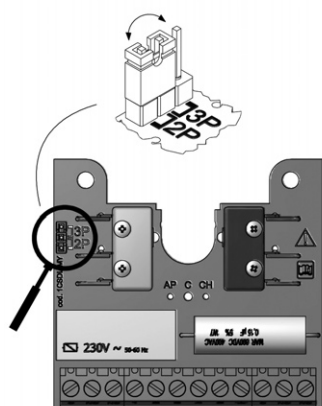
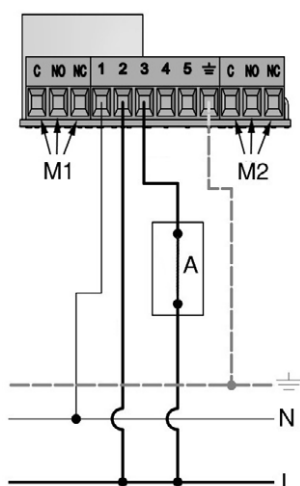
### ELECTRICAL CONNECTIONS

With the electrical **ALL IN ONE** control, you can select the **2-POINT** control or the **3-POINT** control by moving the selector (jumper) mounted on the electrical circuit inside the actuator.

#### 2-POINT CONTROL • ON/OFF (SWITCH)

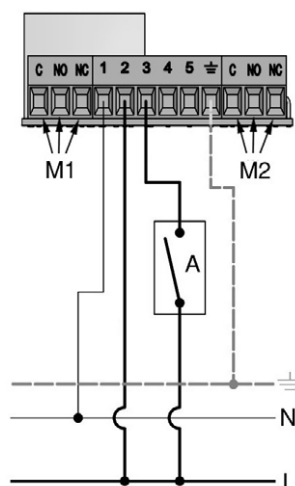
One electric control can activate several actuators.

##### OPENING ACTUATOR



Position the jumper as shown in the picture to have the desired electrical connection

##### CLOSING ACTUATOR



- 1 - Neutro
- 2 - Fase chiusura
- 3 - Fase apertura
- 4 - Fase in uscita apertura
- 5 - Fase in uscita chiusura

#### DIAMANT PRO COMPACT PRO:

- M1 - Auxiliary micro in opening position  
M2 - Auxiliary micro in closing position

#### UNIVERSAL PRO:

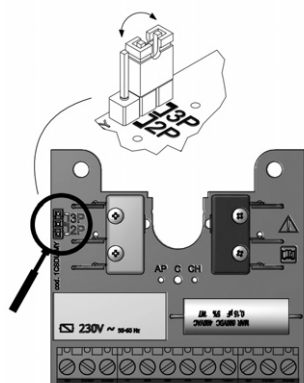
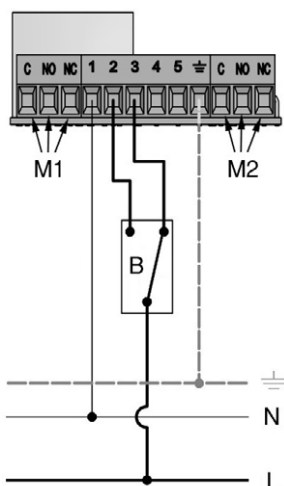
- M1 - Auxiliary micro in closing position  
M2 - Auxiliary micro in opening position

- A - Comando tipo interruttore  
⏏ - Terra

#### 3-POINT CONTROL • ON/OFF (DIVERTER)

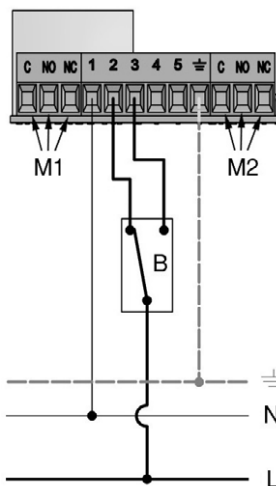
Each actuator must be operated by a single electric control

##### OPENING ACTUATOR



Position the jumper as shown in the picture to have the desired electrical connection

##### CLOSING ACTUATOR



- 1 - Neutro
- 2 - Fase chiusura
- 3 - Fase apertura
- 4 - Fase in uscita apertura
- 5 - Fase in uscita chiusura

#### DIAMANT PRO COMPACT PRO:

- M1 - Auxiliary micro in opening position  
M2 - Auxiliary micro in closing position

#### UNIVERSAL PRO:

- M1 - Auxiliary micro in closing position  
M2 - Auxiliary micro in opening position

- B - Comando tipo interruttore  
⏏ - Terra



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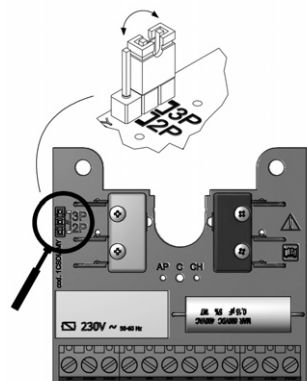
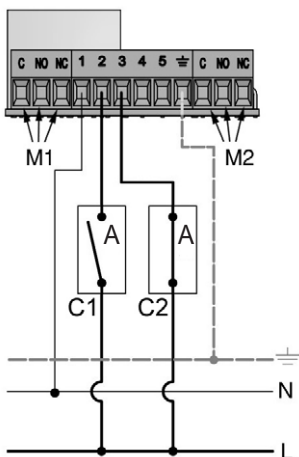
# PRO Range

## ROTARY ACTUATORS - ISO 5211 CONNECTION

### 3-POINT CONTROL • MODULATING

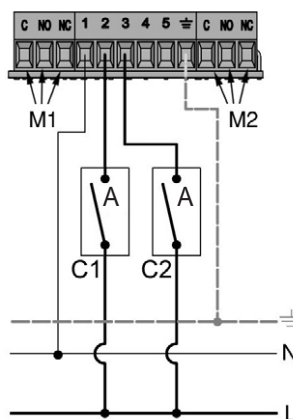
Each actuator must be operated by a single electric control

#### OPENING ACTUATOR

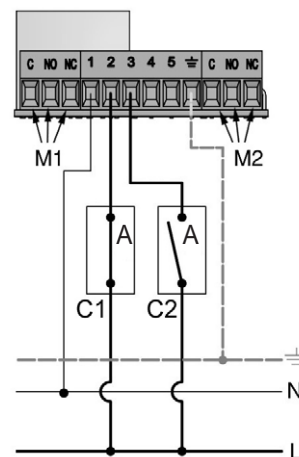


Position the jumper as shown in the picture to have the desired electrical connection

#### INTERMEDIATE POSITION



#### CLOSING ACTUATOR



- 1 - Neutral
- 2 - Closing phase
- 3 - Opening phase

- 4 - Outlet opening phase
- 5 - Outlet closing phase
- C1 - Closing control
- C2 - Opening control

#### DIAMANT PRO - COMPACT PRO:

- M1 - Auxiliary micro in opening position
- M2 - Auxiliary micro in closing position

#### UNIVERSAL PRO:

- M1 - Auxiliary micro in closing position
- M2 - Auxiliary micro in opening position

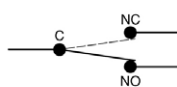
- A - Switch-type control
- ≡ - Earth

### AUXILIARY MICROSWITCHES

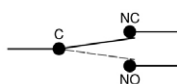
The layout of the extra microswitch contacts is shown in the following pictures:

#### M1 • OPENING AUXILIARY MICROSWITCH

OPEN VALVE

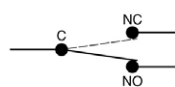


NON-OPEN VALVE

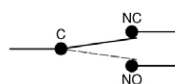


#### M2 • CLOSING AUXILIARY MICROSWITCH

CLOSED VALVE



NON-CLOSED VALVE



### OUTDOOR INSTALLATION • ANTI-CONDENSING KIT

In case of outdoor installation please consider that the actuators may be subject to significant temperature variations (ambient temperature vs actuator's internal temperature). This condition, if constantly replayed, may lead to an accumulation of condensate water which damages the actuator's electrical components. The "ANTI-CONDENSING KIT" includes components able to avoid the decrease of the temperature inside the actuator, reducing the risk of condensation and preventing the presence of moisture by maintaining the balance between indoor and outdoor.



**NOTE:** the heating resistance power supply is independent from the control terminal, the resistance terminations are provided with female faston 6.3mm connections. The powered-on supply of the heating resistance is the same of the one of the actuator.

**NOTE:** in case of critical applications, it is advisable to consider the installation of anti-condensation barriers on power cables or the insulation of the ends with resins or gels in order to prevent the presence of air in the internal cable gaps.



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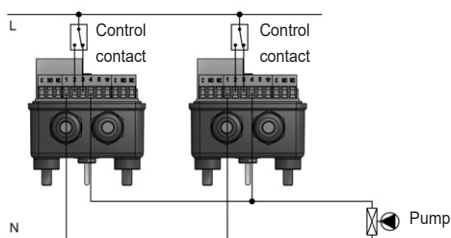
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# PRO Range

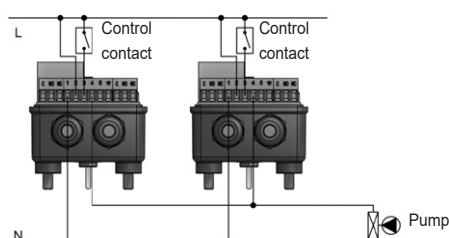
## ROTARY ACTUATORS - ISO 5211 CONNECTION

### EXAMPLES OF ELECTRICAL CONNECTIONS

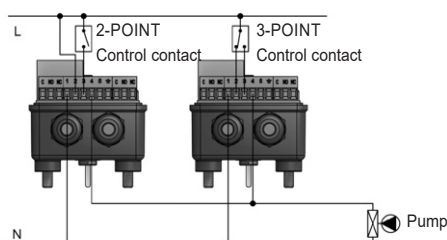
#### CONNECTION OF THE PUMP STOP WITH TWO 3-POINT ACTUATOR



#### CONNECTION OF THE PUMP STOP WITH TWO 2-POINT ACTUATOR



#### CONNECTION OF THE PUMP STOP WITH A 2-POINT ACTUATOR AND A 3-POINT ACTUATOR



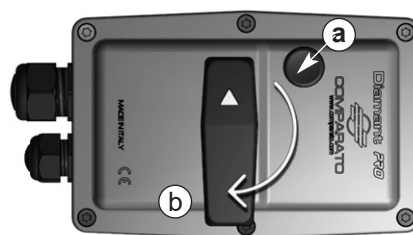
### MANUAL OPERATION

The manual override allows to activate the valve in case of emergency or black-out.

For **Diamant PRO ISO** and **Compact PRO** the manual opening is only available for standard operating times.



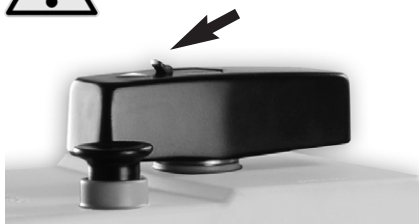
Actuator in **OPENING** position. Press the release button (a) and, simultaneously, rotate the lever (b) 90° **COUNTERCLOCKWISE**, in order to move the actuator in the **CLOSING** position.



Actuator in **CLOSING** position. Press the release button (a) and, simultaneously, rotate the lever (b) 90° **CLOCKWISE**, in order to move the actuator in the **OPENING** position.



When you release the plunger, the actuator returns to the control position if it still powered and is able to perform the operation



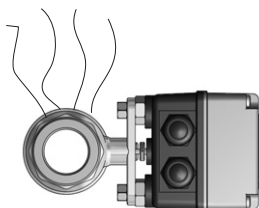
### Universal PRO

If you cannot manually operate the ball valve, you can remove the plastic handle by pressing the lever in the direction shown and operate it manually using a size 17mm wrench. Pay attention not to exceed the 40 Nm torque provided by the actuator, in order to avoid the risk of breaks.

### INSTALLATION

The valve shall not be installed with the actuator's connection facing downwards.

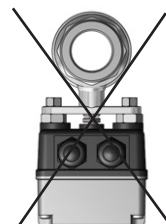
#### RECOMMENDED POSITION



#### ALLOWED POSITION



#### FORBIDDEN POSITION



CAUTION! Do not use high-pressure water directly on the actuator (e.g. a pressure washer)



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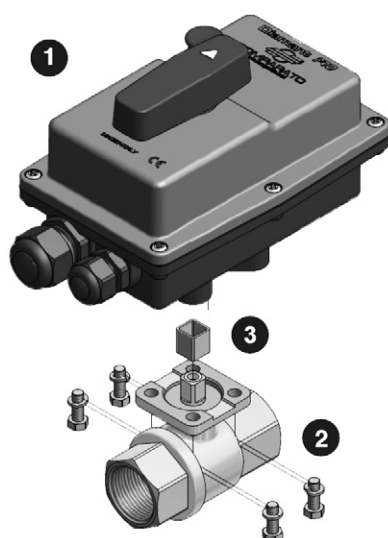
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# PRO Range

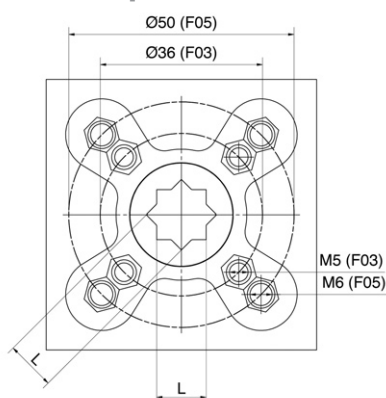
## ROTARY ACTUATORS - ISO 5211 CONNECTION

### CONNECTION TO THE BALL VALVE

#### DIRECT CONNECTION TO THE VALVE

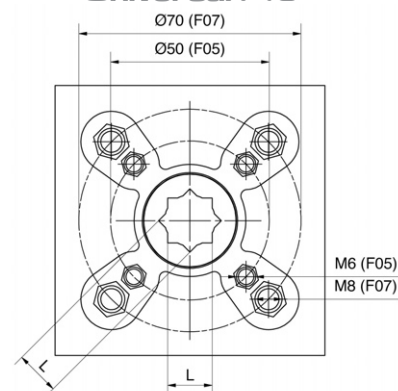


#### Diamant PRO Iso Compact PRO



ISO 5211 connection	L
F03	9 mm
F05	11 mm

#### Universal PRO

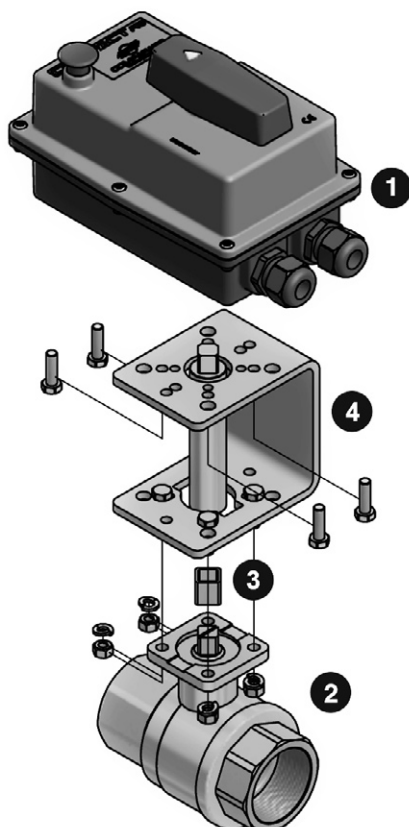


ISO 5211 connection	L
F05	11 mm
F07	14 mm

- 1: PRO Range actuator ISO 5211 connection
- 2: Ball valve
- 3: Panel adapter (if necessary)

#### CONNECTION TO THE BALL VALVE WITH A SPACER

On **Compact PRO** and **Universal PRO** motorized valves, the insulation spacer can be added by adding "D1" to the end of the assembly code. For the use of the insulation spacer (or spacer with manual opening) with **Diamant PRO** actuators, please refer to the "**Diamant PRO** Comparato connection - DP0.0-20".



#### Compact PRO Universal PRO

- 1: Compact PRO / Universal PRO
- 2: Ball valve
- 3: Panel adapter (if necessary)
- 4: Spacer for insulation





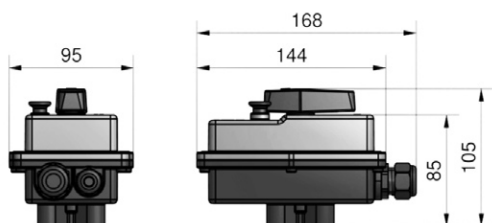
# PRO Range

ROTARY ACTUATORS - ISO 5211 CONNECTION

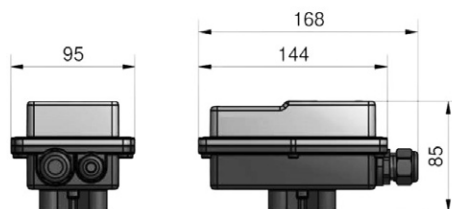
## OVERALL SIZE

### ACTUATORS

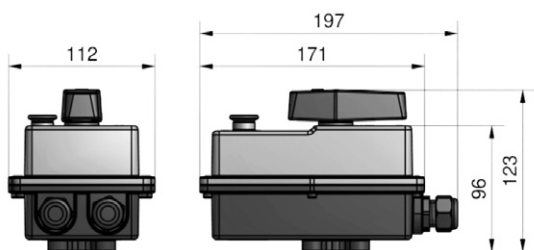
#### Diamant PRO ISO



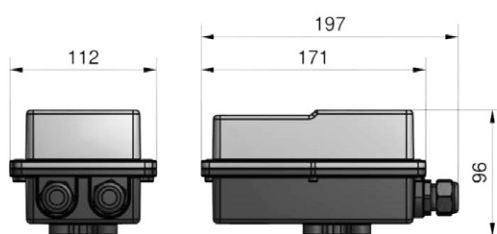
#### Diamant PRO ISO version WITHOUT manual override from the top



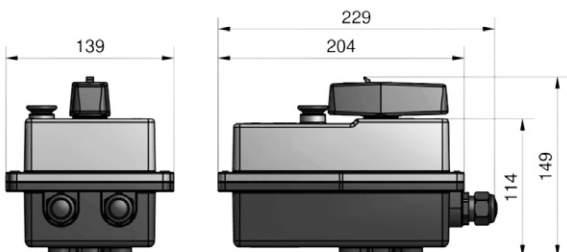
#### Compact PRO



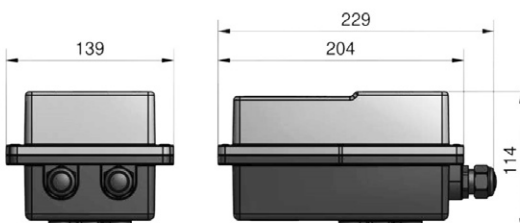
#### Compact PRO version WITHOUT manual override from the top



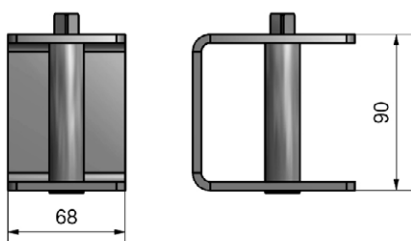
#### Universal PRO



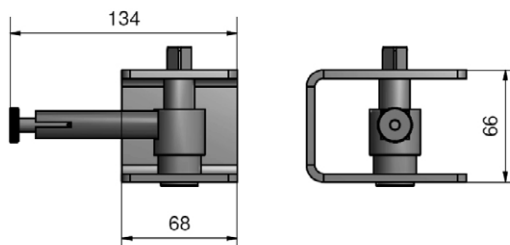
#### Universal PRO version WITHOUT manual override from the top



### SPACERS FOR INSULATION



### SPACERS FOR INSULATION WITH MANUAL OVERRIDE



	Compact PRO	Universal PRO
Part code	DICOM35	DICOM57

	Compact PRO	Universal PRO
Part code	DICO05ADC	DICO07ADC

To be combined with actuators without manual top opening only



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# PRO Range

ROTARY ACTUATORS - ISO 5211 CONNECTION

## BALL VALVE ASSIGNMENT - LISTED COUPLINGS



DN	Ø	2-way BRASS	3-way BRASS	3-way BRASS Mixing Diverting	2-way INOX	3-way INOX	2-way PVC	3-way PVC	2-way FLANGED BALL VALVE cast iron	BUTTERFLY
-	1/4"	DIAMANT PRO ISO	DIAMANT PRO ISO	-	-	DIAMANT PRO ISO	-	-	-	-
10	3/8"	DIAMANT PRO ISO	DIAMANT PRO ISO	-	-	DIAMANT PRO ISO	DIAMANT PRO ISO	AVAILABLE ON DIAMANT PRO COMPACTO CONNECTION	-	-
15	1/2"	DIAMANT PRO ISO	DIAMANT PRO ISO	DIAMANT PRO ISO	DIAMANT PRO ISO	DIAMANT PRO ISO COMPACT PRO	DIAMANT PRO ISO		-	-
20	3/4"	DIAMANT PRO ISO	DIAMANT PRO ISO COMPACT PRO	DIAMANT PRO ISO	DIAMANT PRO ISO	COMPACT PRO	DIAMANT PRO ISO		-	-
25	1"	DIAMANT PRO ISO	COMPACT PRO	DIAMANT PRO ISO COMPACT PRO	DIAMANT PRO ISO COMPACT PRO	COMPACT PRO UNIVERSAL PRO	DIAMANT PRO ISO		COMPACT PRO	-
32	1"1/4	DIAMANT PRO ISO COMPACT PRO	COMPACT PRO UNIVERSAL PRO	COMPACT PRO	COMPACT PRO	UNIVERSAL PRO	DIAMANT PRO ISO		COMPACT PRO UNIVERSAL PRO	COMPACT PRO
40	1"1/2	COMPACT PRO	UNIVERSAL PRO	COMPACT PRO UNIVERSAL PRO	COMPACT PRO UNIVERSAL PRO	-	DIAMANT PRO ISO COMPACT PRO	COMPACT PRO	UNIVERSAL PRO	COMPACT PRO
50	2"	COMPACT PRO UNIVERSAL PRO	UNIVERSAL PRO	UNIVERSAL PRO	UNIVERSAL PRO	-	COMPACT PRO UNIVERSAL PRO	COMPACT PRO	UNIVERSAL PRO	COMPACT PRO UNIVERSAL PRO
65	2"1/2	UNIVERSAL PRO	-	-	-	-	UNIVERSAL PRO	-	-	UNIVERSAL PRO
80	3"	UNIVERSAL PRO	-	-	-	-	UNIVERSAL PRO	-	-	UNIVERSAL PRO
100	4"	UNIVERSAL PRO	-	-	-	-	UNIVERSAL PRO	-	-	UNIVERSAL PRO

Other combinations on request

## EXAMPLE OF SPECIFICATIONS

**DIAMANT PRO ISO ACTUATOR** • ALL IN ONE (2-point ON/OFF or 3-point ON/OFF or 3-point modulating), nominal torque: 11 Nm, power supply: 230V - 50/60 Hz, operating times: 35 sec / 90°, operating angle: 90°, protection degree: IP67, for ball valve: 2 - 3 way, connection to ball valve via ISO 5211 F03/F05 connection, two auxiliary microswitches and manual override from the top.

Brand: **COMPARATO**

Code: **DY222F2A**

UPDATED DATA SHEETS AVAILABLE AT [www.comparato.com](http://www.comparato.com)

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INFORMATION  
MODELING



**HYDROTHERMAL SYSTEMS**  
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